be made in a soluble, single-chain form. These complexes can also comprise a preselected antigenic peptide, which is covalently linked via an amino acid linker to a single-chain MHC class II component. Alternatively, the single chain complex can be loaded with non-covalently linked peptide. In these complexes, the antigenic peptide binds to the antigen binding pocket of the MHC class II component and is specifically recognized by the target T-cell. These single-chain MHC II:peptide complexes can be used, e.g., to treat autoimmune diseases.

Status of the claims

Claims 27 and 28 recite "a soluble, fused MHC class II heterodimer comprising "a β1 and an α1 domain." Claims 39 and 40 recite an expression cassette encoding such a heterodimer. These amendments add no new matter. Support for these amendments can be found, e.g., in original claims 1-4 and 16-17 and in the specification on page 14, lines 5-21.

Claims 27 recites an MHC class II heterodimer that forms "a peptide binding groove that associates with an antigenic peptide." Claim 39 recites an expression cassette encoding such a heterodimer. This amendment adds no new matter. Support for this amendment can be found, e.g., in the specification on page 4, line 37 to page 5, line 1.

Claim 29 recites a human DR1β*1501 β1 domain and claim 30 recites a human DRA*0101 α1 domain. Claims 41 and 42 recite expression cassettes encoding such domains. This claim adds no new matter. Support for this amendment can be found, e g., in claim 5 as originally filed.

Claims 31 and 32 recite peptide linkers of about 5 to about 25 amino acids in length. Claims 47 and 48 recite an expression cassette encoding such linkers. These claims add no new matter. Support for these claims can be found, e.g., in the specification on page 9, lines 13-20.

Claims 33 and 34 recite a peptide linker having the sequence GASAG or GGGSGGS. Claims 43 and 44 recite expression cassettes encoding such linkers. These amendments add no new matter. Support for these amendments can be found, e.g., in the specification on page 5 lines 20-25.

Claim 35 recites an antigenic peptide capable of stimulating a CD4+ helper T cell-mediated immune response. Claim 45 recites an expression cassette encoding such a

peptide. This amendment adds no new matter. Support for this amendment can be found, e.g., in the specification on page 10, lines 2-20.

Claim 36 recites a third polypeptide segment that is a peptide selected from the group consisting of SEQ ID NO:59, SEQ ID NO:61, SEQ ID NO:40, SEQ ID NO:39, and SEQ ID NO:33. Claim 49 recites an expression cassette encoding such peptides. This claim adds no new matter. Support for this claim can be found, e.g., in claim 10 as originally filed.

Claims 37 and 38 recite "pharmaceutical compositions" comprising the MHC class II heterodimers of claims 1 and 2. These claims add no new matter. Support for these claims can be found in claim 20 as originally filed.

Claim 46 recites an expression cassette further encoding a signal sequence. This claim adds no new matter. Support for this claim can be found, e.g., in the specification on page 34, lines 5-12.

CONCLUSION

If the Examiner believes a telephone conference would aid in the prosecution of this case, please call the undersigned at 415-576-0200.

Respectfully submitted,

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APPENDIX A

VERSION WITH MARKINGS TO SHOW CHANGES MADE

The present application is a continuation of U.S. Serial No 09/261,811, filed March 3, 1999, and U.S. Serial No 08/657,581, filed June 7, 1996, and is a continuation-in-part of U.S. Serial No. 08/480,002, filed June 7, 1995, U.S. Serial No. 08/483,241, filed June 7, 1995 and U.S. Serial No. 08/482,133, filed June 7, 1995, and claims the benefit of U.S. Provisional Application No. 60/005,964, filed October 27, 1995, [which applications are pending] the disclosures of which are herein each incorporated by reference in their entirety.